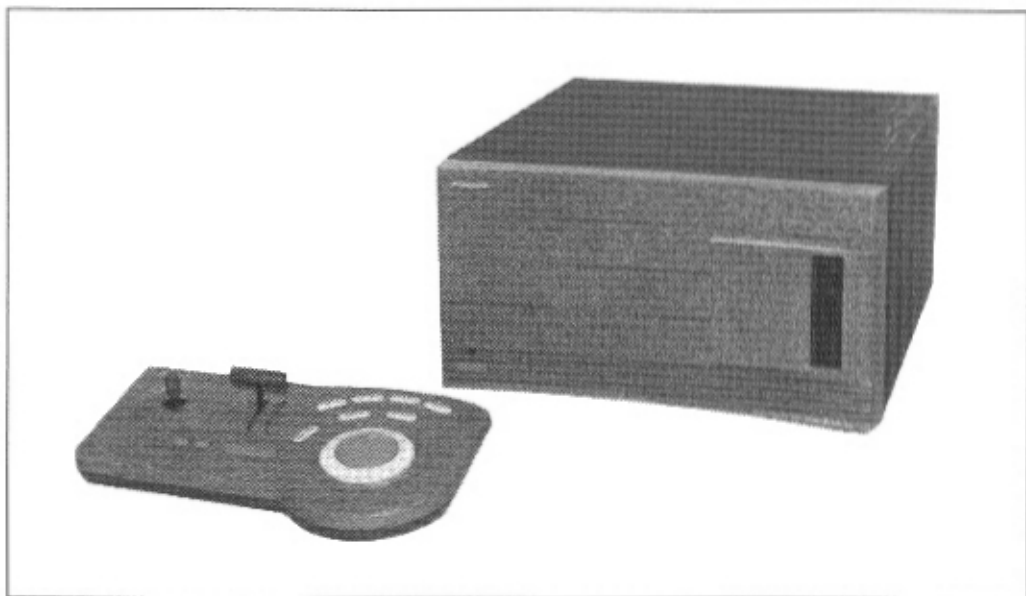


# Installation Manual

Nonlinear AV Workstation  
Main Kit

WJ-MX1200AK



**Panasonic®**

Before attempting to connect or operate this product, please read these instructions completely.

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**CAUTION**

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION:**  
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.S.A.

## Warning:

This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

The serial number of this product may be found on the bottom of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. WJ-MX1200AK

Serial No. \_\_\_\_\_

## WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## PREFACE

The WJ-MX1200A Panasonic Nonlinear AV Workstation Main Kit is a combination of powerful hardware, flexible software and a custom human interface developed for professional post-production work. With the WJ-MX1200A AV Workstation, nonlinear editing is a creative process that finishes your videos to high standards while maintaining production budgets.

## OPERATING CONDITIONS

The WJ-AS1200 (Ver.3.5 or later) application software is prerequisite.

## FEATURES

### Batch Digitizer

- VCR control for batch digitizing source bins for scene sorting
- Clip database includes in, out, reel, scene number, take number, comment, name
- Clip searching and sorting by keyword/read reel number from user bits option

### Sequence Editor

- "Drag & Drop" scene placement - insert, replace, cover modes
- Audio follow video on/off edit mode - 3 layers of video tracks - video, key and title
- Separate "effects" track for dissolves, wipes, compression etc.
- Over 250 different effects (inc. 3D DVE)
- Output of compatible EDL
  - CMX3600
  - CMX340
  - GVG
  - SONY (BVE9000)
  - Panasonic (AU-A950)

### Audio Processing

- 4 layers of stereo audio tracks
- Equalizer, delay, mono (panpod), and reverb effect

### Character Generator

- Including 41 true type fonts
- Automatic crawl or roll
- Automatic timing of title transitions

### Paint Editor

- Retouch software, cut and paste, brush, stencil, air-brush, draw
- Graphic data file support

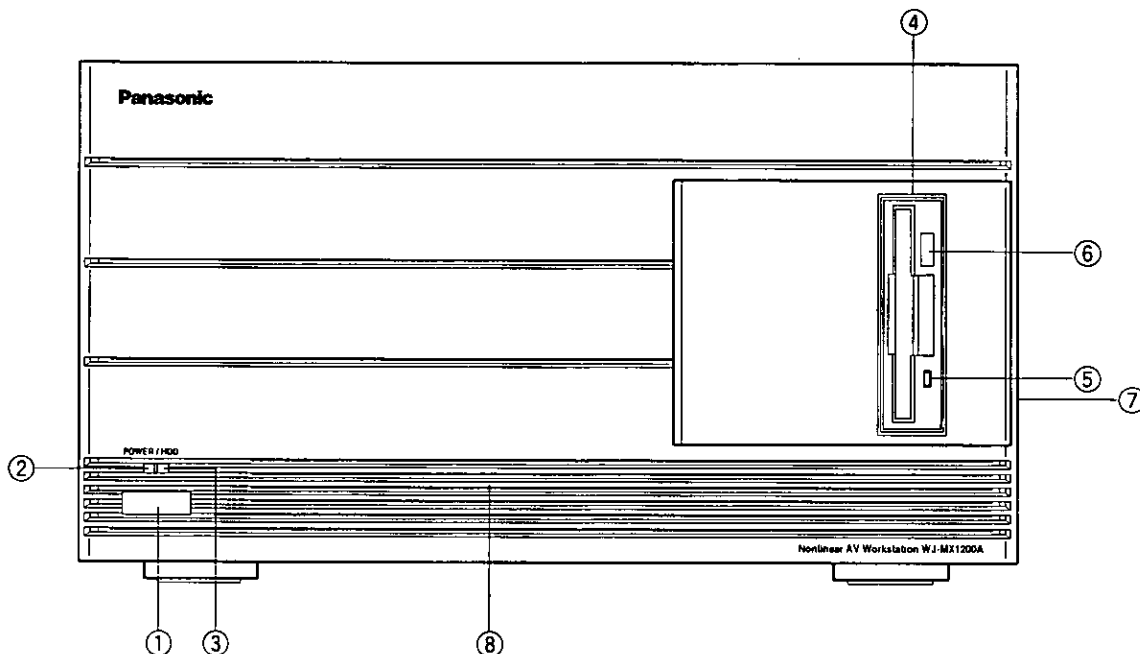
Windows 95 is the registered trademarks of Microsoft Corporation.

## PRECAUTIONS

- Do not expose the main unit and jog pad to rain or moisture, and do not try to operate the equipment in wet areas. Do not operate the main unit and jog pad if it becomes wet.
- Do not attempt to disassemble the main unit or jog pad. In order to prevent electric shock, do not remove screws or covers.  
There are no user-serviceable parts inside.
- Do take immediate action if ever the main unit or jog pad should become wet. Turn the power off and have the unit checked by an authorized service facility.
- Do not interrupt the Vent Hole on the front panel.  
The main unit will heat and it will cause the damage or a fire.
- Be sure to remove the plug by grasping the plug and not the cord itself.
- Do not initial the built-in hard disk.
- Use the main unit or jog pad in an environment where the temperature is within 32°F - 95°F (0°C - + 35°C), and the relative humidity is within 10 - 90%.
- Handle the unit with care.  
Do not abuse the main unit or jog pad. Avoid striking, shaking, etc. It could be damaged by improper handling or storage.
- Do not use strong or abrasive detergents when cleaning the unit and jog pad.  
Do use a dry cloth to clean the unit when dirty.  
In case the dirt is hard to remove, use a mild detergent and wipe gently.
- The input power source is 120V AC 60 Hz.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTION

## ■ FRONT PANEL



### 1. Power On/Off Switch

Turns the power of this unit on and off.

#### Notes :

1. Be sure to turn on the power of this unit after turning on the Hard Disk Box.
2. Do not turn off the power of this unit while the Nonlinear AV Workstation System software is running.

### 2. Power Indicator (RED)

Lights by turning on the power.

### 3. HDD Indicator (GREEN)

Lights up while the HDD operates.

### 4. 3.5" Floppy Disk Drive

### 5. Floppy Disk Indicator

Lights during an access of the floppy disk.

### 6. Eject Button

Ejects the Floppy Disk.

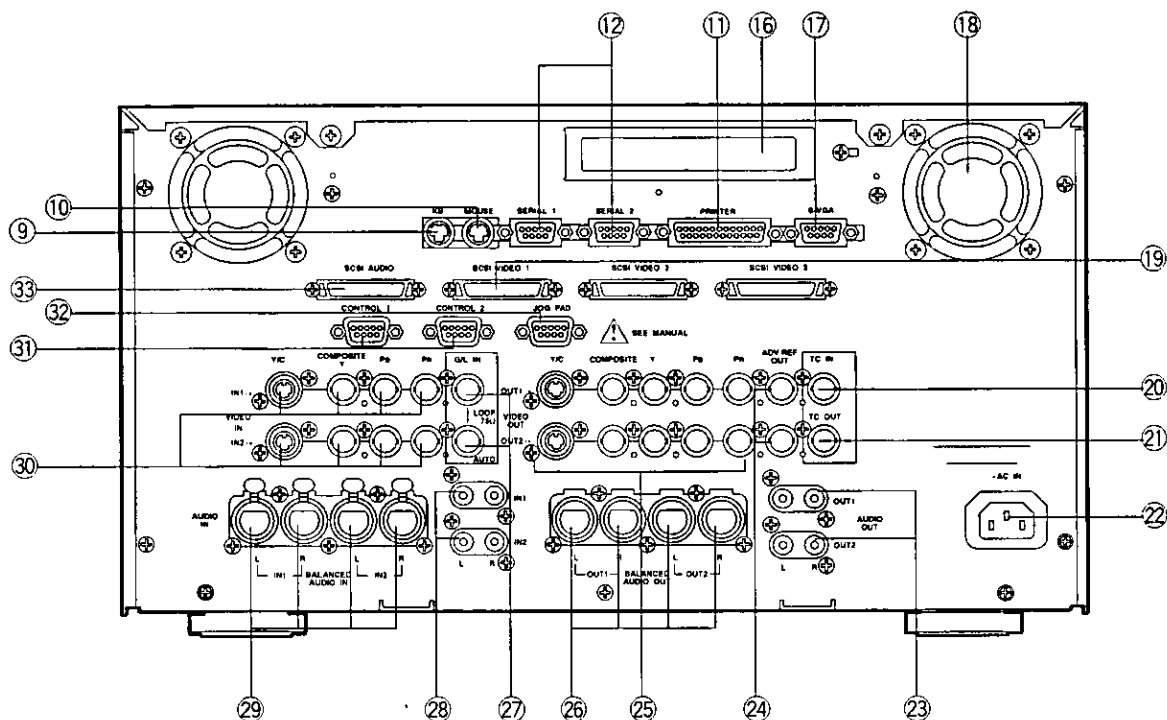
### 7. Front Panel Remove Button

Removes the Front Panel.

### 8. Front Panel

**Caution:** Do not interrupt the Vent Hole on this panel.

## ■ REAR PANEL



### 9. KEYBOARD Connector (KB)

Connects with the keyboard (locally purchase).  
If the cable is too short to connect, use the Key Board Extension Cable (accessory).

### 10. MOUSE Connector (MOUSE)

Connects with the Mouse (locally purchase).  
When the cable is too short to connect, use the Mouse Extension Cable (accessory).

### 11. PRINTER Connector (PRINTER)

Connects with the printer.

### 12. SERIAL1 / 2 Connectors (SERIAL 1/SERIAL 2)

Connects with equipment having RS-232C Interface Connectors.

13. Not used.

14. Not used.

15. Not used.

### 16. PCI Slot

Refer to qualified service personnel.

### 17. S-VGA Connector (S-VGA)

Connects with the computer display.  
The applicable display parameters are shown below.  
Resolution: 1024 x 768  
Horizontal Scanning Frequency: 48 kHz  
Vertical Scanning Frequency: 60 Hz

### 18. Fan

Supplies steady forced air through intake and filter.

**Note:** After extensive use the fans need to be replaced periodically.

| Operating Time       | Operating Life |
|----------------------|----------------|
| 8-hour everyday use  | 6-year         |
| 12-hour everyday use | 4-year         |
| 24-hour everyday use | 2-year         |

**19. SCSI VIDEO Connectors (SCSI VIDEO 1-3)**

Connects with the SCSI Video Connector of the Hard Disk Box WJ-EB1000 via the optional SCSI Cable WJ-CA10SR3.

**20. TC (Time Code) IN Connector (TC IN)**

Connects with a VCR having LTC time code signal output connector to improve editing accuracy.

**21. TC (Time Code) OUT Connector (TC OUT)**

Connects with a VCR having LTC time code signal input connector.

The signal supplied from this connector is not looped through.

**22. AC Inlet**

Connect the AC Power Cord (provided)

**23. AUDIO OUT 1 / 2Jacks  
(AUDIO OUT OUT1, OUT2 L/R)**

Supply the audio signals.

**24. ADV-REF OUT Connector (ADV-REF OUT)**

Supplies the Advance Reference Signal to the VCR having the time base corrector inside (or AUX video source).

**25. Video Output Connectors**

**(VIDEO OUT1/OUT2 Y/C, COMPOSITE, Y, Pb, Pr)**

Supplies the video signal to the monitor or VCR.

**26. AUDIO OUT 1/2 Connectors  
(BALANCED AUDIO OUT, OUT1/OUT2)**

Supply the audio signals.

**27. G/L IN / AUTO Connectors (G / L, IN/AUTO)**

The gen-lock signal is supplied to these connectors (Be sure to terminate the video signal output from these connectors).

By connecting with the G/L AUTO Connector, the video signal is automatically unterminated.

**Caution:**

If a gen-lock signal is supplied to the G/L connector during playback or recording, it may cause the video to roll or cause other system malfunction.

Stop the playback or recording, then make a connection to the G/L connector again.

**28. AUDIO IN 1/2 Jacks (IN1, IN2 L/R) (Unbalanced)**

Accepts the audio signal.

The audio signal supplied to these jacks can be saved in the Hard Disk Box.

When the audio signal is supplied to the L side only, a monaural audio signal is made.

**29. AUDIO IN 1/2 Connectors  
(BALANCED AUDIO IN IN1 L/R, IN2 L/R)**

Accepts the audio signal.

The audio signal supplied to these connectors can be saved in the Hard Disk Box.

**30. Video 1/2 Input Connectors  
(VIDEO IN1/IN2 Y/C, COMPOSITE, Y, Pb, Pr)**

Accepts the video signals to be saved in the Hard Disk Box.

Select the connector, either Composite, Y/C or Component, according to the type of video signal.

The selection of either Video 1/Video 2 is available on the PC monitor screen.

**31. CONTROL 1/2 Connectors  
(CONTROL 1 /CONTROL 2) (9-pin)**

Supplies the control signal (for the recording or play back mode) to equipment having an RS-422 Interface Connector.

Be sure to supply the video signal of the VCR connected with CONTROL 1 to VIDEO IN 1, and likewise with the VCR connected to CONTROL 2.

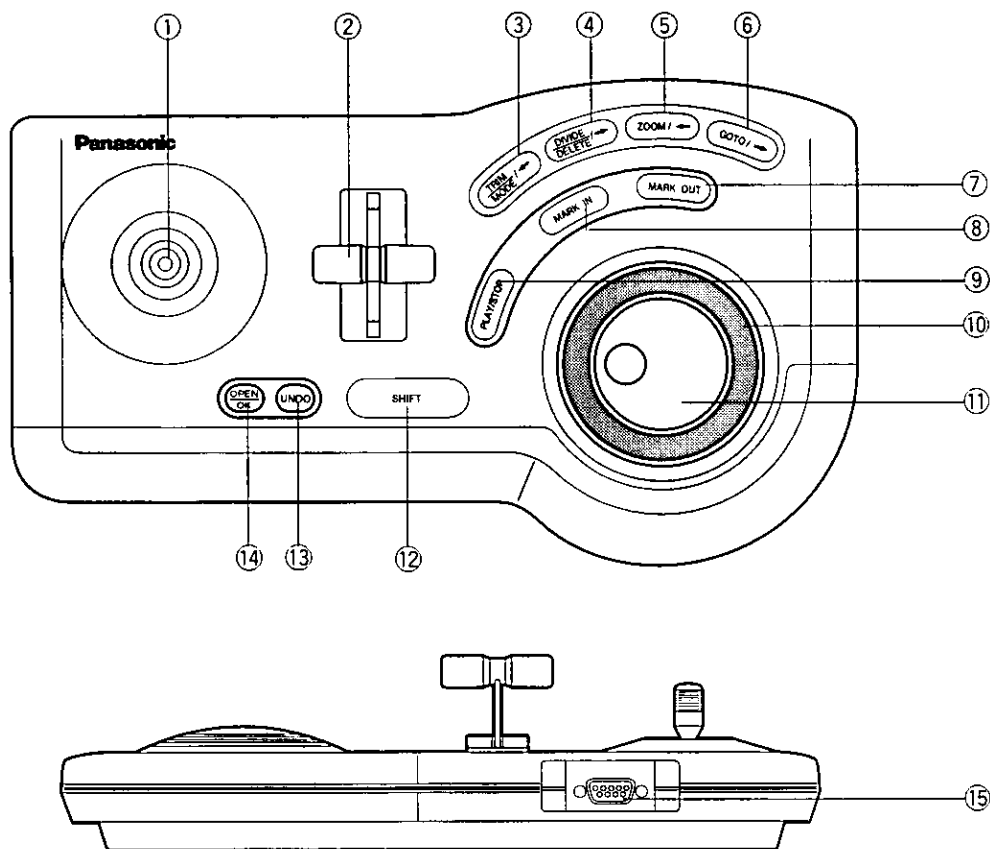
**32. JOGPAD Connector (JOGPAD)**

Connects with the Jogpad (provided).

**33. SCSI AUDIO Connector (SCSI AUDIO)**

Supplies the audio signal to the SCSI Audio Connector of the optional Hard Disk Box via the optional SCSI Cable WJ-CA10SR3.

## ■ JOG PAD



### 1. Positioner

Moves the selection cursor (when selection is confirmed).

### 2. Wipe Lever

Controls Wipe, Key Size, and Audio Level.

### 3. TRIM / MODE /

Switches edit modes (Insert - Replace - Cover)  
(SHIFT + TRIM/MODE) Turns Trim mode On/Off  
(during transition)

### 4. DIVIDE / DELETE

Deletes a clip.  
(SHIFT + DIVIDE / DELETE) Divides a clip

### 5. ZOOM /

Zooms in the time line  
(SHIFT + ZOOM) Zooms out the time line.

### 6. GOTO /

Jumps to the starting or editing mark  
(SHIFT + GOTO) Jumps to the beginning or end  
of a sequence.

### 7. MARK OUT

Sets or cancels the ending mark.  
(SHIFT + MARK OUT) Selects the grip of the OUT  
point.

**8. MARK IN**

Sets or cancels the starting mark.

(SHIFT + MARK IN) Selects the grip of the IN point.

**9. PLAY / STOP**

Plays back or stops.

(SHIFT + PLAY /STOP) Plays back between the starting and ending marks.

**10. Shuttle Ring**

Plays back video and audio forward (clockwise) or in reverse (counterclockwise) with variable speed.

**11. Jog Dial**

Plays back video and audio forward (clockwise) or in reverse (counterclockwise) frame by frame.

**12. SHIFT**

Switches button functions.

**13. UNDO**

Cancels the immediately previous operation.

**14. OPEN / OK**

Opens the selected panel or selects a panel and closes the previous panel.

**15. Jog Pad Connector**

Connects with the Main Unit by using the Jog Pad Cable (accessory).

## CONNECTION

These connections should be made by qualified service personnel or system installers.

### ■ Cable Information

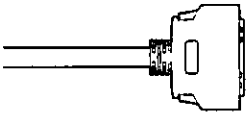
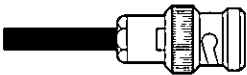
Necessary cables for this system are shown below.

SCSI Cable (WJ-CA10SR3) Connects with the HDD-BOX.

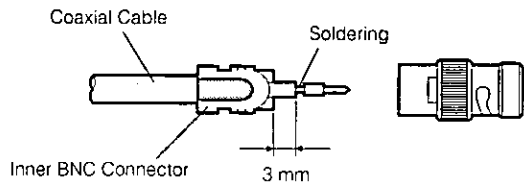
Coaxial Cable (with BNC Connector) Connects with the VCR or Monitor.

2-conductor shielded cable (with XLR-3-12C Connector) Connects with the powered speaker), cassette tape recorder, CD player, VCR.

S-VHS cable connects with the S-VHS VCR.

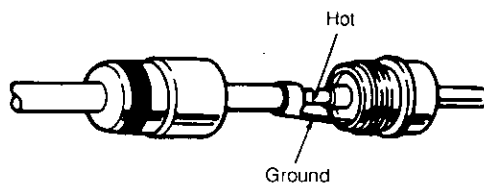
| Cable                                                                                                                                                | Use                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>SCSI Cable (WJ-CA10SR3)</b><br>                                  | HDD-BOX Connection                                                                        |
| <b>Coaxial Cable</b><br>With BNC Connector<br>                      | VCR (Video)/Monitor Connection                                                            |
| <b>2-conductor shielded Cable</b><br>With XLR-3-12C Connector<br> | VCR (Audio) Connection                                                                    |
| <b>RCA Pin-plug Cable</b><br><b>RCA W Pin-plug Cable</b><br>      | Power speaker Connection<br>Cassette Tape Recorder/CD Player/S-VHS VCR (Audio) Connection |
| <b>S-VIDEO Cable</b><br>                                          | S-VHS VCR Connection                                                                      |

## Coaxial Cable / BNC Connector

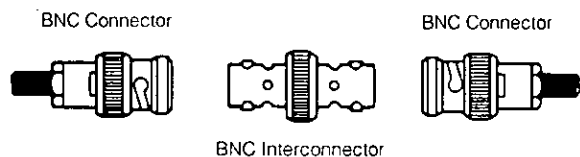


## RCA Pin-plug

Connect single-conductor shielded wire as shown below.

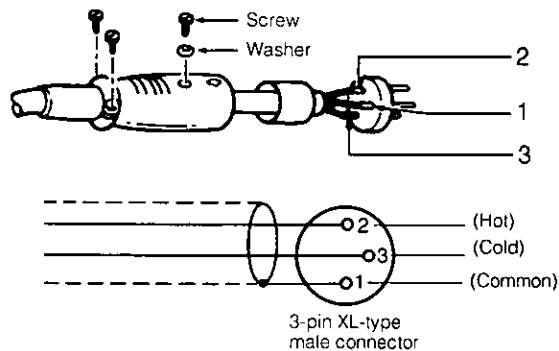


## Interconnection of BNC Coaxial Cable



## XLR-3-12C Connector

Connect the 2-conductor shielded wire as shown below.



# SYSTEM CONNECTION

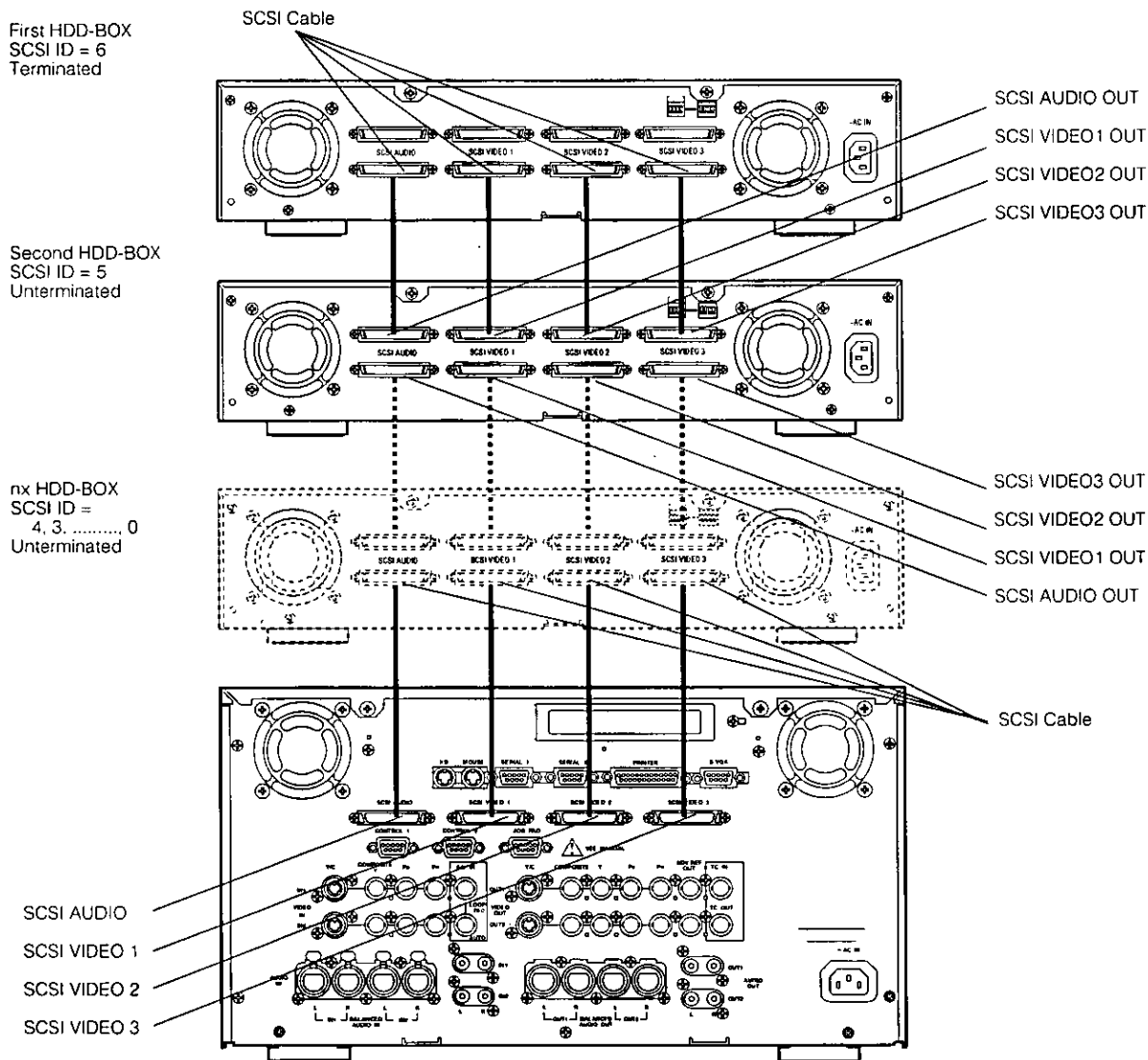
The following system connections should be made by qualified service personnel or system installers.

## ■ HDD-BOX Connection

Refer to the Operating Instructions of the WJ-EB1000 Hard Disk Box for the Hard Disk Box Installation instructions.

Connect the SCSI VIDEO 1, 2 and 3 Connector(s) of this unit to the SCSI Input Connector(s) of the WJ-EB1000 by using the optional SCSI Cable WJ-CA10SR3.

**Note:** The first WJ-EB1000 should be terminated and set to ID=6.



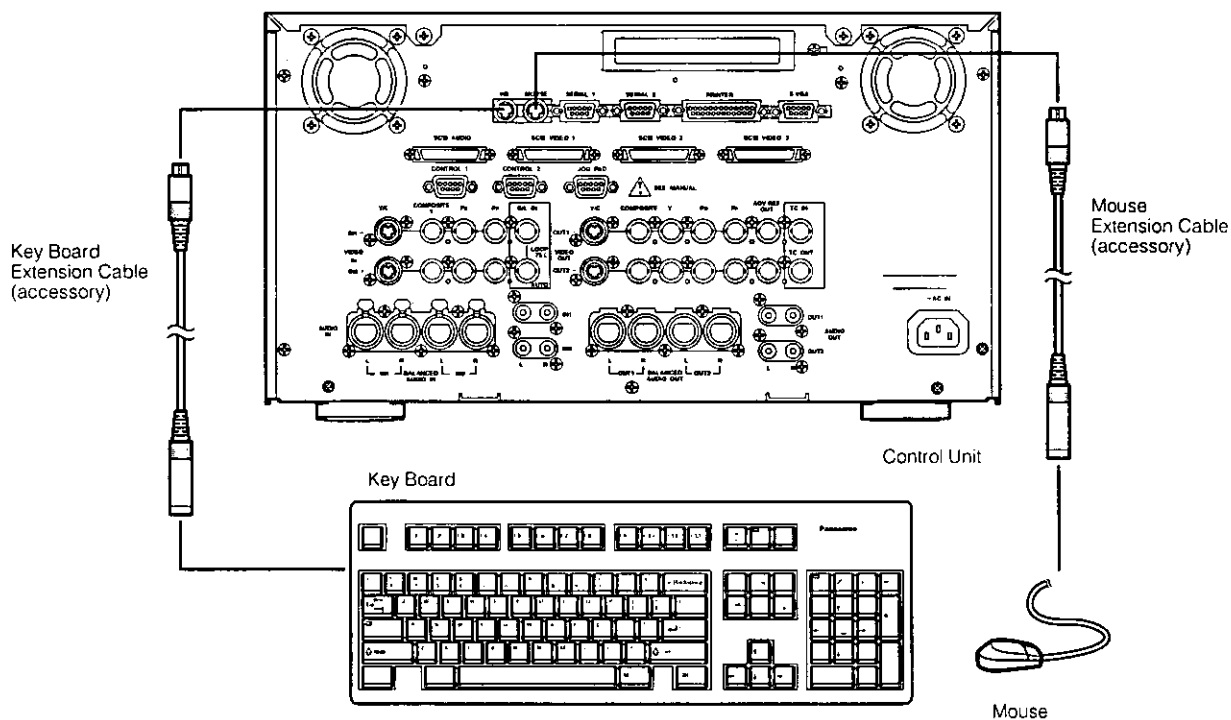
## ■ Key Board, Mouse and Jog Pad Connections

### ● Key Board and Mouse

Connect the KEY BOARD Connector of this unit to the Key Board.

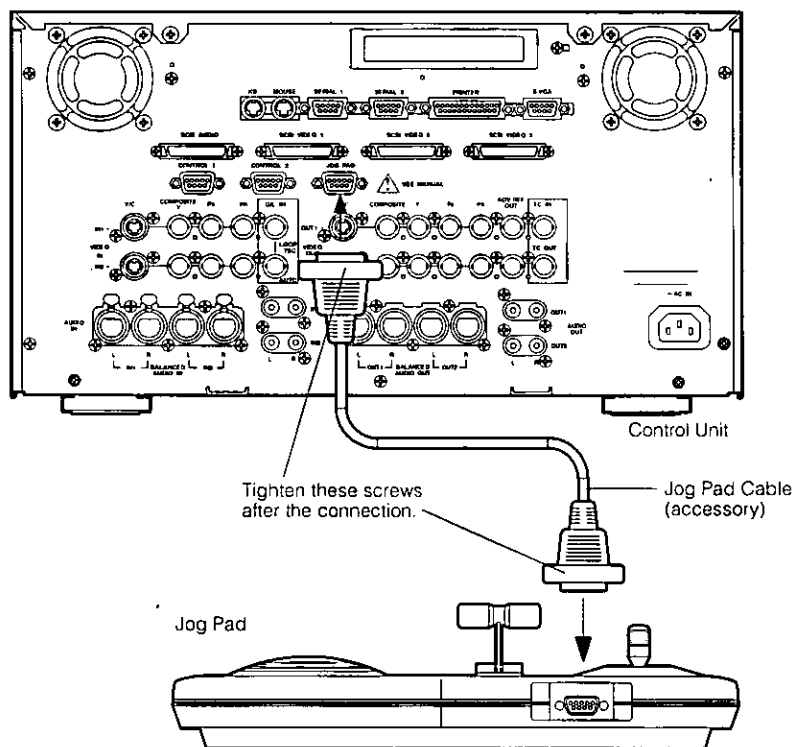
Connect the MOUSE Connector of this unit to the Mouse.

Use the Key Board Extension Cable/Mouse Extension Cable (accessory) for the extension.



## ● Jog Pad Connection

Connect the JOGPAD Connector (32) of this unit to the Jog Pad.  
After connecting, tighten the screws on the Jog Pad Cable (provided).



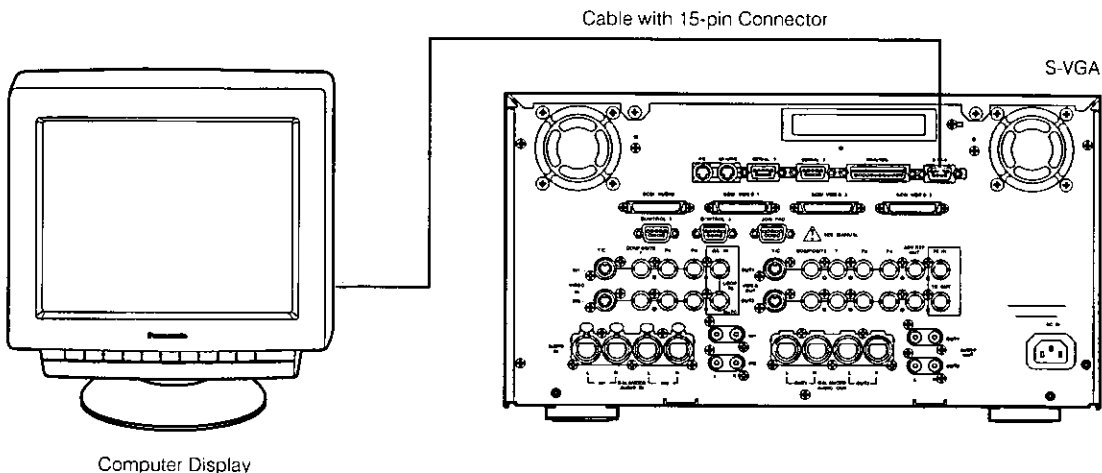
## ■ Monitor Connection

### ● Computer Display Connection

Connect the S-VGA Connector of this unit with the computer display.

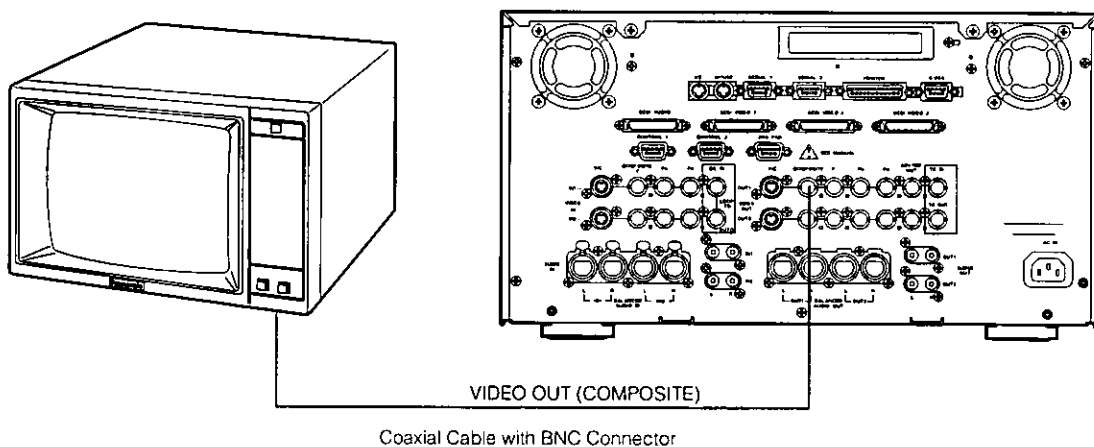
The usable computer display is shown in the following.

Resolution 1024 x 768 dot  
Horizontal Scanning Frequency 48 kHz  
Vertical Scanning Frequency 60 Hz



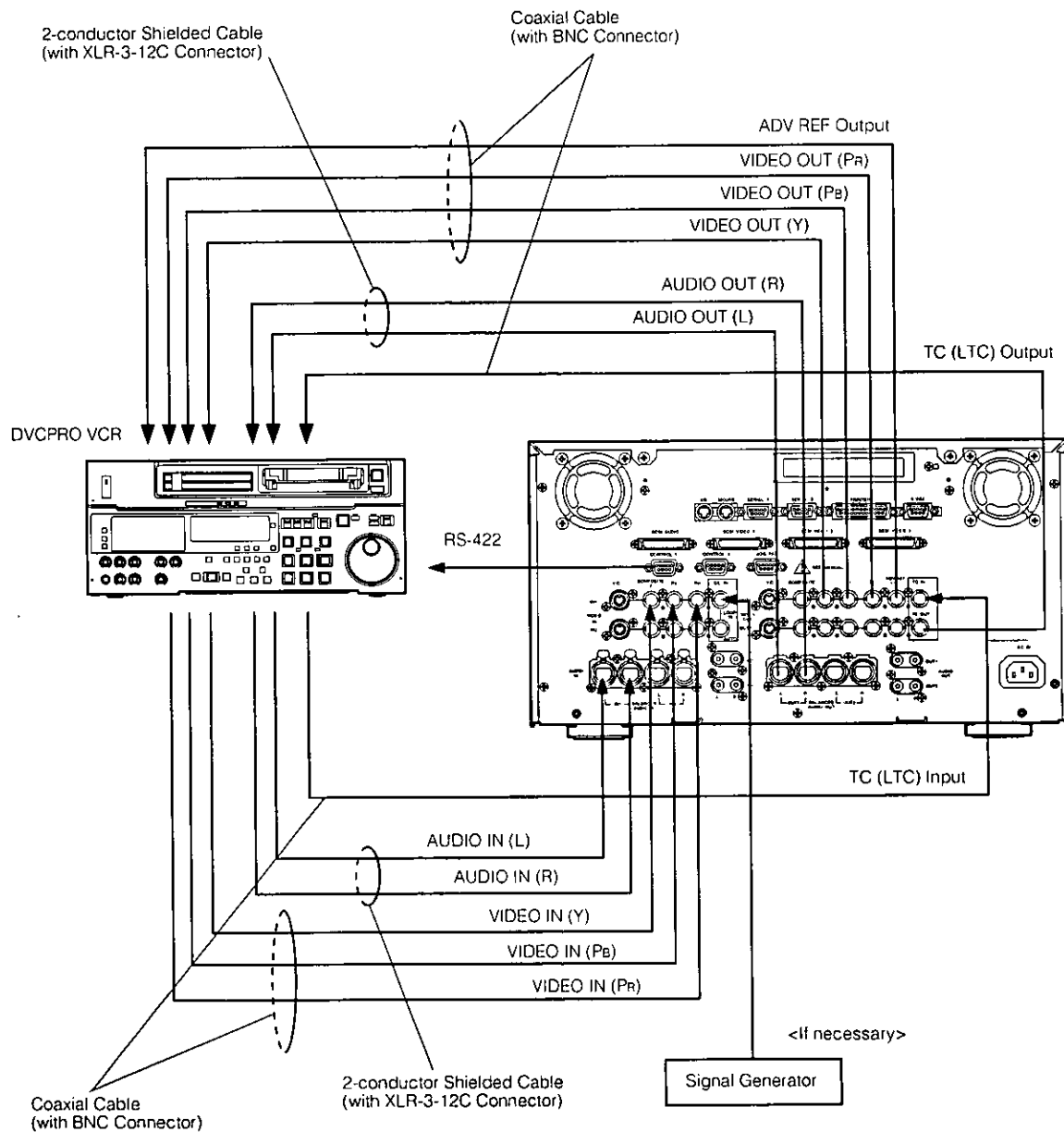
### ● VIDEO Monitor Connection

Connect the COMPOSITE Connector of this unit with the video monitor.

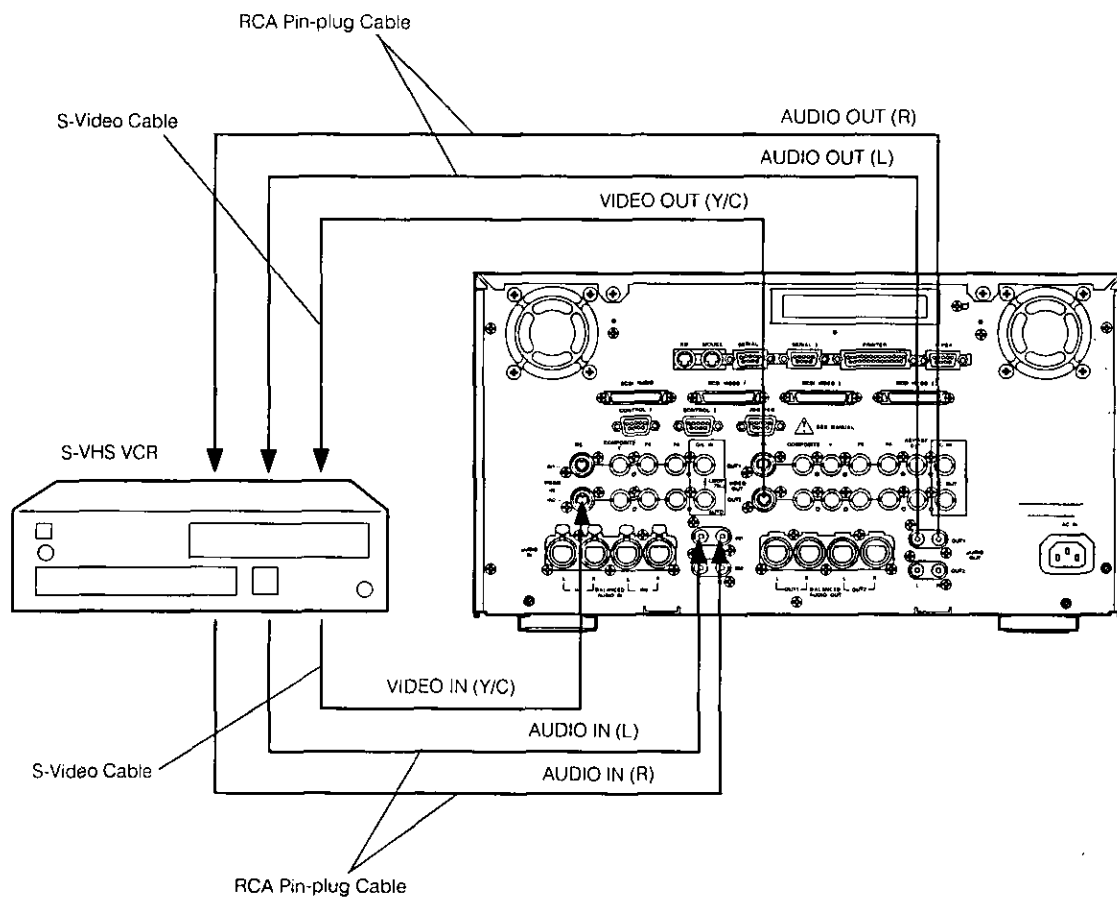


## ■ VCR Connection

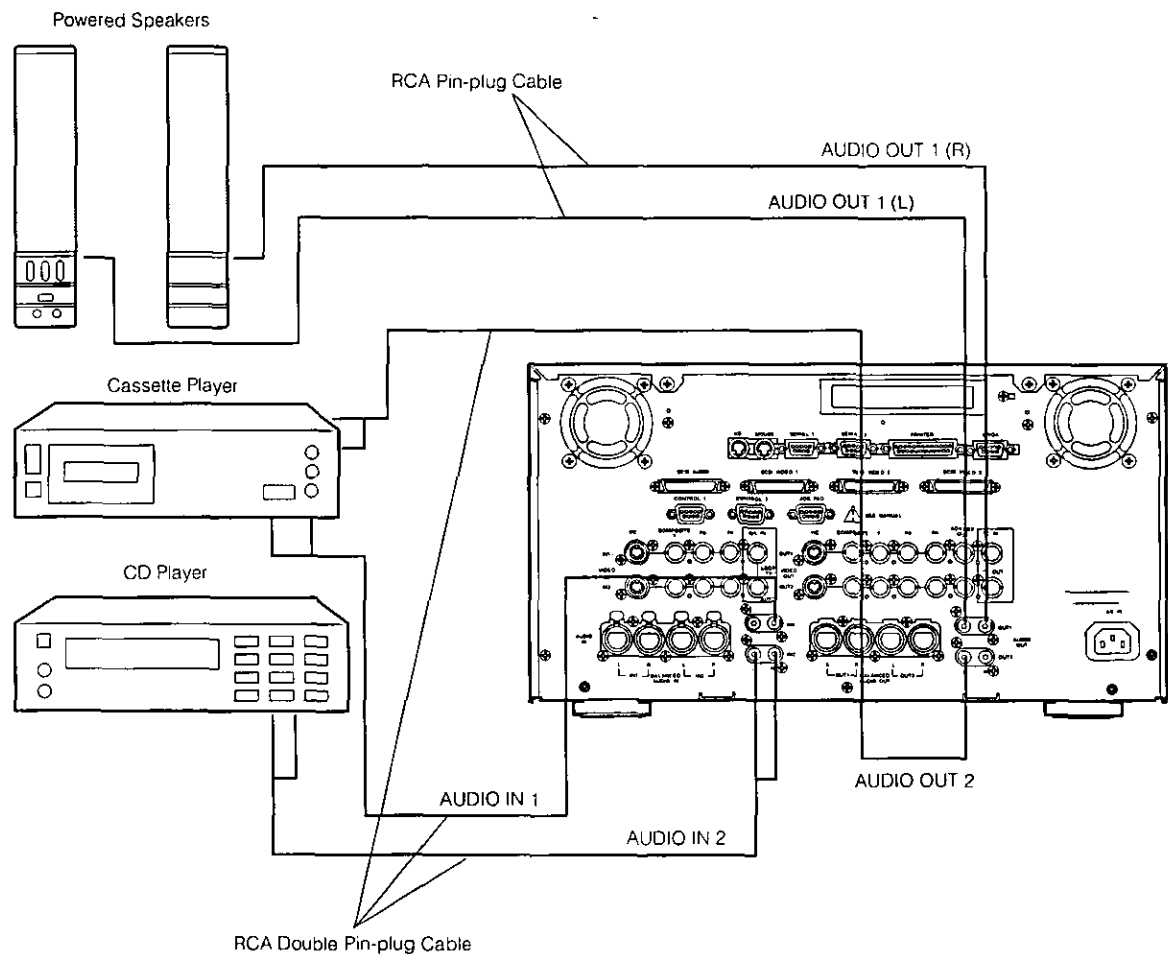
### ● DVCPRO VCR



# ● S-VHS VCR



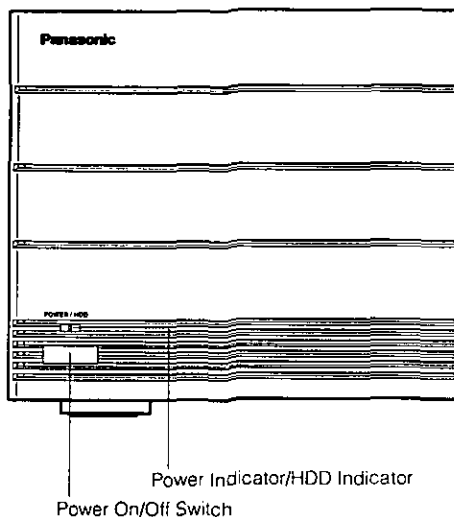
■ **Powered Speaker, Cassette Tape Recorder or CD Player Connection**



## POWERING MAIN UNIT ON AND OFF

### ■ Power On

1. Turn on the power of the HDD-BOX and all peripheral equipment in the system.  
The power indicator of the HDD-BOX lights red.
2. Turn on the power of this unit.  
The Power Indicator (2) of this unit lights and the system is activated.



### ■ Power Off

#### CAUTION:

Be sure to turn off the power of this unit only after the nonlinear AV workstation software is closed.

Otherwise, the data on the HD or HDD unit may be corrupted.

1. Quit the software and Windows.  
Refer to the Users Manual of the WJ-AS1200 (application software) for details.
2. Turn off the power of the peripheral equipment.
3. Turn off the power of this unit.

# OPERATING PROCEDURES

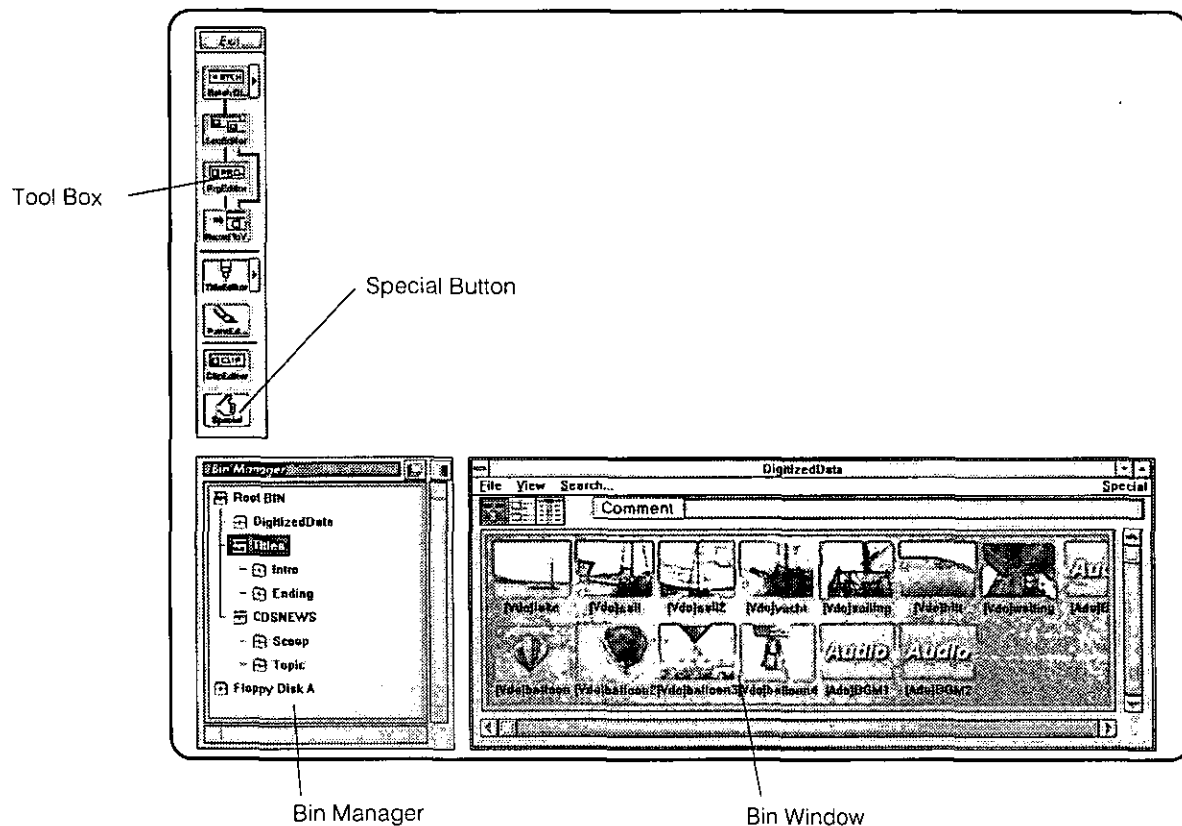
Refer to the User's Manual or Reference Manual for more details.

## ■ Starting the System

1. Turn on the power of the peripheral equipment in the system.
2. Then turn on the Main Unit.

The system starts and the initial window (Tool Box, Bin Manager or Bin Window) appears on the Computer Display.

Computer Display is shown below.



## ■ Closing the System

1. Click "Exit" on the Tool Box.
2. Click "OK".
3. Turn off the power of the peripheral equipment in the system and then the Main Unit.

## ■ Installing the Software Package

You should install the application program (provided on floppy disks with the WJ-AS1200) into the Main Unit to operate this system.

**Note :** Back-up Windows 95 before the installing the application program and font.

### Install an Application Program

1. Turn on the peripheral equipment of the system.
2. Then turn on the Main Unit.  
Windows 95 starts up.
3. Click "START".  
The Pull Down menu is displayed.
4. Click "RUN....".
5. Insert the [DISK No1] floppy disk into the FDD.
6. Type "A:\SETUP" from the keyboard and click "OK".  
The initial setup window appears.
7. Click "Continue".  
The input screen appears.
8. Click "Continue".  
Then type your name, company and the serial number of the main unit from the keyboard.
9. Click "Continue".  
The Locale dialog panel is displayed.
10. Select "NTSC [English]" and click "Continue".  
The Confirmation dialog panel is displayed. Click "Install".
11. "Please insert the diskette labeled:disk2" is displayed.
12. Insert the "DISK No2" floppy disk into the FDD and click "OK".
13. Copy the contents of all floppy disks into the Main Unit according to the message on the computer display.

## ■ Installing Fonts

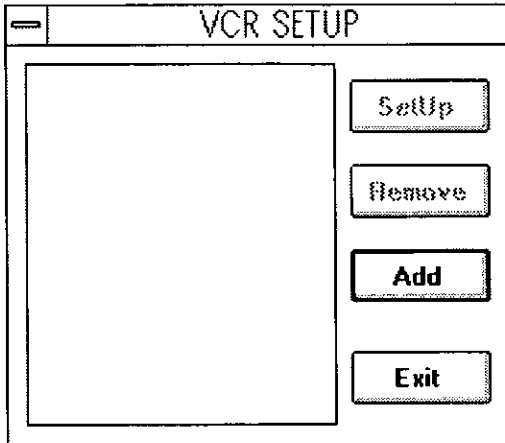
1. Turn on the Main Unit.  
The application program starts up.
2. Double click "Special" in the Tool Box.  
The Setup panel appears.
3. Click "Font" on the Setup panel.  
Click "Append All" and combine the necessary fonts with the application program.

## ■ Device Setting

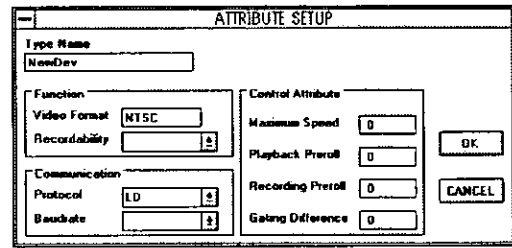
Refer to the Reference Manual of WJ-AS1200 for more details.

1. Double click "Special" in the Tool Box.
2. Double click "Device" in the Setup Panel.  
The "VCR SETUP" window is displayed.

Device Setup Window



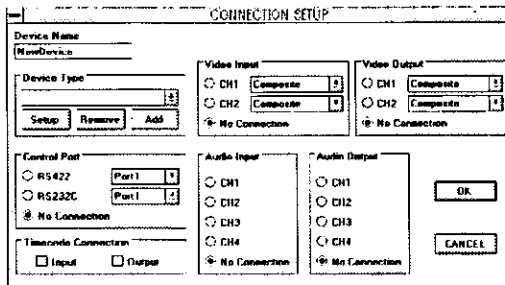
Attribute Setup Panel



6. Set Function, Communication and Control Attributes.

3. Click "SetUp" in the Device Window.  
The "Connection Setup" panel is displayed.

Connection Setup Panel



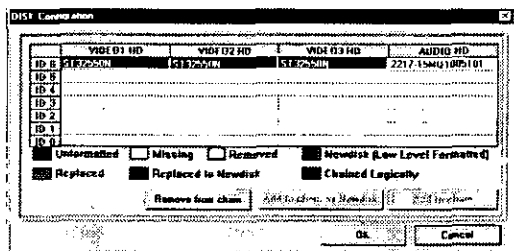
4. Set the necessary items.
5. Click "SetUp" or "Add".  
The "Attribute Setup" panel is displayed.

## ■ Operation Confirmation

Refer to the Reference Manual for the AVHDD Maintenance tools.

1. Double click "Special" in the Tool Box.  
"Setup Panel" is displayed.
2. Double click "AV HDD" to display the "AV HDD Maintenance tool" panel.
3. Click "disk configuration" to display the "Disk Configuration" panel.

DISK Configuration Panel



4. The HDD model numbers are displayed in the "Disk Configuration" panel.

**Note:** All HDD model numbers should be displayed in blue.

## No Display

- Confirm the SCSI cable connection between the HDD-Box and main unit.
- If no problem is found with the connection, refer to qualified service personnel.

## Black Display

- Initialization of the HDD displayed in black (in the "Disk Configuration" panel) is not possible.  
In this case, refer to qualified service personnel.

## Red Display

- Click on "Add to chain as Newdisk" for logical formatting.

## Caution

- It is important to make a back-up copy of HDDs, and Windows 95. Backing up your files and disks ensures that you won't lose information if the original is lost or damaged.
- For backing up, 30 floppy disks are required.

## ■ Back-up of Windows 95

1. Format 29 floppy disks.
2. Click [EXIT], then click [Restart Windows].
3. Click [Start] and select [Programs] → [Accessories] → [System Tools Create System Disks].
4. Insert the floppy disk into the Floppy Disk Drive according to the message.
5. Write WIN-0,1...28 on the labels of the backed-up floppy disks.

## Caution

Only 1 set of back-up disks can be made.

## ■ Reloading Windows

1. Keep the 29 Windows 95 back-up disks ready.
2. Insert the [WIN-0] floppy disk into the FDD, and turn the main power on.
3. Reload the floppy disks from [WIN-0] to [WIN-28].

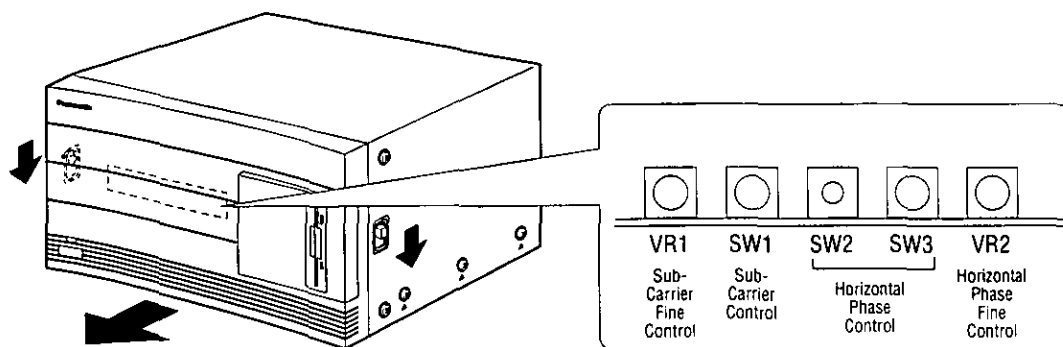
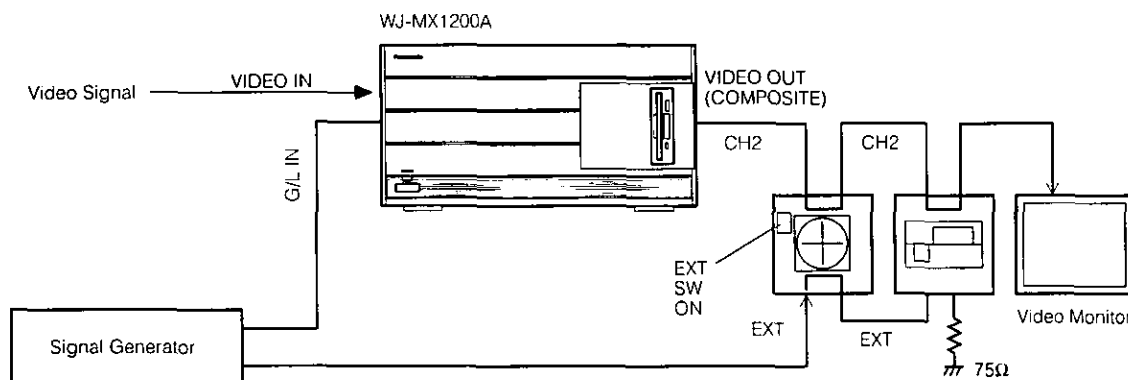
# ADJUSTMENT

## ● Gen-lock Adjustment

Phase adjustments must be performed by using the switches inside the Front Panel when external synchronizing signals are supplied to the system.

For the example, the gen-lock adjustment is shown below using a two-channel oscilloscope (or wave form monitor), vector scope and signal generator.

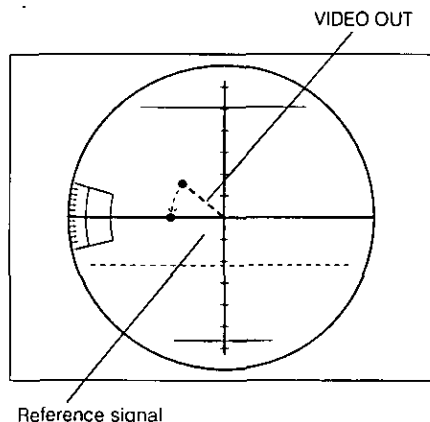
1. Connect the oscilloscope, vector scope and signal generator with the Main unit WJ-MX1200A.  
The reference signal is supplied from the signal generator.  
The video signal should be a composite signal.
2. Turn on the external reference switch of the vector scope.
3. Remove the Front Panel by pressing down the Front Panel Remove Buttons (7) on the left and right sides.



## ● Color Phase Control

The sub-carrier can be adjusted by using the SW1 and VR1.

1. Turn the SW1 to clockwise ;  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$ ,  $270^\circ$   
Turn the SW1 to counterclockwise ;  
 $270^\circ$ ,  $180^\circ$ ,  $90^\circ$ ,  $0^\circ$
2. Perform the fine adjustment with the VR1.

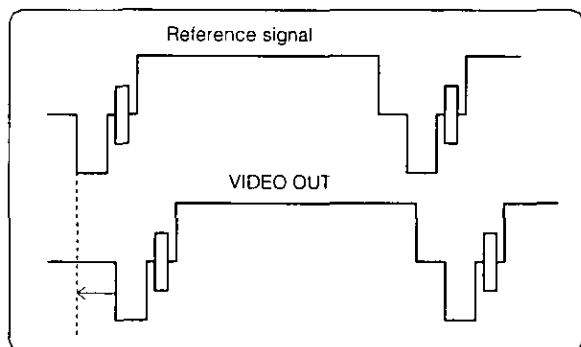


## ● Horizontal Phase Control

Observe the waveform of the external synchronizing input signal (black burst signal) and video output signal on a two-channel oscilloscope.

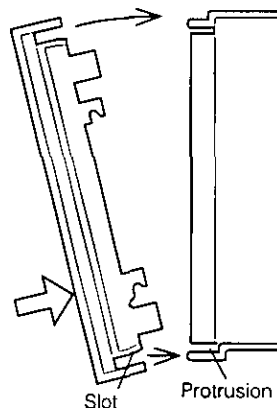
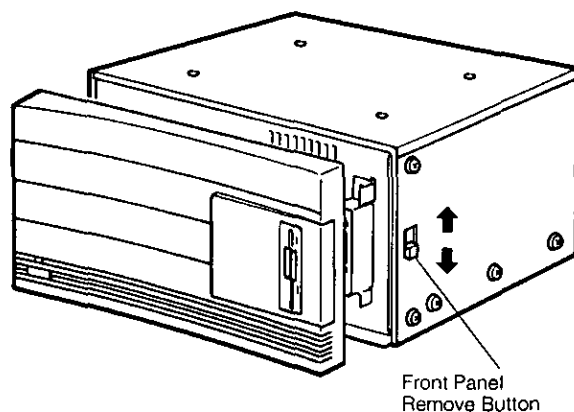
Then match the horizontal phase of both signals by using the SW2, SW3 and VR2.

1. The horizontal phase course 1 adjustment can be performed with the SW3 ( $1\ \mu\text{s}$ ).
2. The horizontal phase course 2 adjustment can be performed with the SW2. ( $70\ \text{ns}$ ).
3. The horizontal phase fine adjustment can be performed with the VR2.



## ● Install the Front Panel

After the above adjustments, install the front panel as shown below.



1. Press down (↓) the Front Panel Remove Buttons (7) on both the left and right sides.
2. Place the panel as shown above figure.  
Insert the slot on the panel to the protrusion, then press the panel to the front of the Main Unit.
3. Press up (↑) the Front Panel Remove Buttons (7) on both the left and right sides.
4. Confirm the Front Panel is tightened firmly.

# SPECIFICATIONS

## Video

### Video Input

Input Connectors

Composite:

Y/C:

Component:

2 sources (selectable from Composite, Y/C, Y/PB/PR)

1.0 V[p-p]/75  $\Omega$  (BNC)

Y: 1.0V[p-p]/75  $\Omega$

C: 0.286 V[p-p]/75  $\Omega$  (Y/C terminal)

Y: 1.0V[p-p]/75  $\Omega$  (BNC)

PB/PR: 0.486V[p-p] or 0.7V[p-p], 75  $\Omega$  (BNC) (Setup 7.5 IRE)

### Video Output

Output Connector

Composite:

Y/C:

Component:

2 outputs (simultaneously from Composite, Y/C, Y/PB/PR)

1.0V[p-p]/75  $\Omega$

Y: 1.0V[p-p]/75  $\Omega$

C: 0.286V[p-p]/75  $\Omega$  (Y/C terminal)

Y: 1.0V[p-p]/75  $\Omega$  (BNC)

PB/PR: 0.486V[p-p] or 0.7V[p-p], 75  $\Omega$  (BNC) (Setup 7.5 IRE)

### Synchronization

Gen-Lock Input

ADV.REF output

1.0V[p-p]/75  $\Omega$  (BNC), with loop-through output (x1)

Sync: 0.286V[p-p], 75  $\Omega$

Burst: 0.286V[p-p], 75  $\Omega$

### Audio Input

Selectable from 4 sources

Source 1/2

Source 1/2

+4dBm, 600  $\Omega$  balanced (3-pin XLR connector)

-6dBs, 20 k $\Omega$ , unbalanced (RCA pin jack)

### Audio Output

4 outputs (simultaneous)

Ch. 1/2

Ch. 1/2

+4dBm, 47  $\Omega$  balanced (3-pin XLR connector)

-6dBs, 75  $\Omega$ , unbalanced (RCA pin jack)

### Other Inputs/Outputs

LTC time code Input

LTC time code output

SCSI connector

x1 (BNC)

x1 (BNC)

x4 (Audio, Video 1, Video 2, Video 3, SCSI-2 standard,

50-pin half pitch connector, bellows type)

RS422, 9 pin x2 (D-sub)

9 pin x1 (D-sub)

VCR control connector :

Jog Pad connector:

### PC

CPU :

OS :

Main Memory :

Built-in Hard Disk Drive :

Floppy Disk Drive :

Card Slot :

SVGA connector :

Pentium Processor, MMX 200 MHz

Windows 95

32MB

2.1GB (E-IDE) x1

1.44MB x1

PCI x1 (supplied by Panasonic only)

15 pin x1 (D-Shell, female), 1024x768 dots, 256 colors,

Scanning: 48kHz (horizontal), 60 Hz (vertical)

25 pin x1 (D-Shell, female)

9 pin x2 (D-Shell, male)

6 pin x1 (Mini-Din, female)

6 pin x1 (Mini-Din, female)

Parallel connector:

Serial connector :

Mouse :

Keyboard :

### Video Performance

|                       |                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
| S/N Ratio *:          | 55dB (Y/P <sub>B</sub> /P <sub>R</sub> ), 53dB (Y/C), 50dB (Composite)                                                        |
| DG, DP *:             | 5%, 3°                                                                                                                        |
| Frequency Response *: | 4.5MHz, +0dB, -3dB (Y/C, Y/P <sub>B</sub> /P <sub>R</sub> )                                                                   |
| Sampling Frequency:   | 13.5MHz, 4:1:1, 8 bit component                                                                                               |
| Y/C Separation:       | 3 lines, digital logical comb filter                                                                                          |
| SC-H:                 | ±30°                                                                                                                          |
| Compression:          | MOTION JPEG                                                                                                                   |
| Compression Quality:  | Q3, Q6, Q8, Q11, Q23                                                                                                          |
| Recording Time:       | Approx. 3 min/GB (Q3)<br>Approx. 6 min/GB (Q6)<br>Approx. 8 min/GB (Q8)<br>Approx. 11 min/GB (Q11)<br>Approx. 23 min/GB (Q23) |

### Title Graphics

|             |                                                 |
|-------------|-------------------------------------------------|
| Resolution: | 640 x 480 dots Y, U, V, α, 8 bit component each |
| Font :      | True type                                       |

### Audio Performance

|                           |                                 |
|---------------------------|---------------------------------|
| S/N Ratio                 | More than 70dB (1kHz, XLR OUT)  |
| Dynamic Range             | More than 88dB                  |
| Total Harmonic Distortion | 0.05% (1kHz)                    |
| Frequency Response        | 20kHz, +0, -3dB, 20Hz, +0, -3dB |
| Sampling Frequency        | 48kHz, 16 bit                   |
| Mixing                    | Stereo 4 channels               |
| Effector                  | EQ, Reverberation               |
| Recording Time            | Approx. 67min/GB                |

### Others

|                    |                 |
|--------------------|-----------------|
| EDL Output         | CMX 3600 format |
| Graphic Conversion | TIFF file       |

### General

|                               |                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------|
| Power Supply                  | 120V AC, 60Hz                                                                       |
| Power Consumption             | 130W (with optional Video Board)                                                    |
| Ambient Operating Temperature | 0°C - 35°C (32°F-95°F)                                                              |
| Ambient Operating Humidity    | 10% - 90%                                                                           |
| Weight                        | Main unit: 22.5 kg (49.5 lbs)<br>Jog pad: 1.2 kg (2.6 lbs)                          |
| Dimensions                    | Main unit: 420 (W) x 220 (H) x 450 (D) mm<br>Jog pad: 340 (W) x 45 (H) x 193 (D) mm |

Weight and dimensions indicated above are approximate.  
Specifications are subject to change without notice.  
This product might be subject, to export control regulations.

\* : Without Compression

# Panasonic

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